SOME PROBLEMS OF THE RURAL COMMON SCHOOL.

By A. C. True, Ph. D.,
Director of the Office of Experiment Stations.

INTRODUCTION.

The elementary public school, free to all children who choose to come, has been for many years a distinctively American institution. With the spread of population westward it has been carried into every State and Territory. Its influence in maintaining the democratic spirit of our people, in welding together the diverse elements of our native and foreign-born population, in raising the general level of intelligence to a comparatively high plane, has been too great to be measured. In our wonder and admiration at the marvelous results which the public school has achieved we have too often forgotten its shortcomings and have at times been in great danger of making it a petrified institution, thus depriving it of the progressive life which alone can enable it to adapt itself to a changing material environment, an advancing knowledge, and a more complex civilization. We may have even forgotten that there has never yet been a time when there were schoolhouses enough in this country to accommodate all the children of school age, but that multitudes of these children have been and still are deprived of the opportunity to acquire even the simplest rudiments of education. With the growth of large towns and cities in rapidly increasing numbers the thought of the educational leaders was for many years largely engrossed in developing a public-school system which should meet the needs of these strong and active communities. Hence have arisen the graded schools, the public high schools, special courses in music, drawing, calisthenics, domestic science and manual training, skilled superintendence, free text-books, elaborate and well-equipped schoolhouses, and, in a word, a vast and complicated system of public education for the urban youth. In more recent years this system has been increasingly adjusted to meet the varied industrial needs of city populations. The courses in both the common and high schools in the cities are being changed from year to year with a view to providing instruction which shall relate more closely to the requirements of the store, the countingroom, the workshop, and the professions. While there has thus been great and multifarious activity in the educational affairs of the cities, the progress in the rural communities has

been along very narrow lines. With the rapid spread of the agricultural population over a vast territory and the industrial revolution produced in great regions through the liberation of millions of illiterate slaves, the chief effort of educational forces in the rural districts has been to provide schools of some sort to meet at least the simplest educational needs of a great and widely scattered multitude of children. The motto with which the educational leaders sought to inspire the country people was, "Let us put a schoolhouse in every valley and on every hilltop." Until very recently little attempt was made to change or improve the curriculum of country schools. Those advanced leaders of educational effort who went out to study the problems of the country schools generally brought back a discouraging report. "These schools," they said, "are in a bad way, but we see no present hope of their improvement. Let us go on building schoolhouses and trust the future to bring forth some plan for the betterment of the schools." Fortunately, however, a few of these advance agents of educational progress had more courage and hopefulness than the rest, and through their efforts great interest in plans for the improvement of the country schools has at length been aroused in educational circles. At meetings of teachers and school officers the country schools have a larger place on the programme and their needs and requirements are more earnestly and hopefully discussed.

INFLUENCE OF PRESENT EDUCATIONAL MOVEMENT ON AGRICULTURE.

It is the purpose of this article to set forth some of the features of the new movement for the improvement of the rural schools, and this is done because it is believed that in this movement is contained much that promises to work to the great advantage of our agriculture, as well as to the enlarged welfare and happiness of our rural people. Without doubt the character of our agriculture is rapidly changing. It is becoming more highly diversified, its operations are becoming more complicated, the use of intricate machinery is becoming more common and necessary, and, in general, successful farming now requires a wider knowledge and a greater skill. The discoveries of the agricultural experiment stations and the broader technical training of the leaders of agricultural progress in the colleges are producing profound effects on our agricultural practice, the final results of which are but dimly appreciated by the masses of our farmers, but which will surely make the lot of the rightly educated farmer of the future more fortunate and the lot of the ignorant farmer relatively more deplorable. It is very important, therefore, that the agricultural people should study the problems of the public schools and should become alive to the relation of these schools to the progress of their art. When every other industry is allying itself closely with the schools and seeking changes in the school courses which will

be to its benefit, it will not do for agriculture to hold aloof from the educational movements of our times and attempt to run a twentieth century agricultural system on the basis of an eighteenth, or even nineteenth, century school system. It is true, as we have said, that our educational leaders are becoming aroused to the importance of improving the rural schools and are exerting themselves more strenuously in this direction with every passing year, but it is not best to leave the shaping of this movement entirely to the schoolmen. The patrons of the schools, the farmers themselves, should take an active part in this movement, impress upon the schoolmen their real educational needs, and help to adjust the public schools to the advancing requirements of agriculture. We propose, therefore, in this article to bring the problems of the schools to the attention of our farmer readers and to open the discussion of these problems from the standpoint of the needs of our agriculture and our agricultural people.

THE PRIMARY TASK OF THE PUBLIC SCHOOLS.

Obviously the fundamental problem of our public schools is to give all the people at least the simplest rudiments of education. This primary task they have not yet accomplished. According to the census of 1900 the population of the United States (excluding the insular possessions) is over 75,000,000. The number of men of voting age is 21,329,819, of whom 2,326,295, or about 11 per cent, are illiterate, that is, out of every 1,000 men of voting age 109 can neither read nor write. Of these illiterates, 620,000 are foreign born, 688,750 are native whites, and 977,049 are negroes. The illiterate voters represent a total illiterate population of probably 7,500,000, or one-tenth of the whole population. The men engaged in farming in the United States aggregate in round numbers 7,500,000, representing a total agricultural population of 30,000,000. If the number of illiterates in the rural population is not relatively greater than in the population generally, the number of illiterate farmers must be at least 800,000, and the illiterate agricultural population must aggregate 3,000,000. (See fig. 1.) Since the vast majority of the illiterate negroes are engaged in farming, this is probably a low estimate of illiteracy among our farmers. It will thus be seen that illiteracy is one of the great obstacles to the progress of agriculture in the United States. This inert mass of absolute ignorance constitutes not only a menace to our social and political institutions, but it prevents the introduction of better crops, better methods of cultivation, and better farm machinery in many sections. In these regions, even if intelligent farm managers are available, their efforts to improve agriculture are largely defeated by the stupidity of the only farm laborers who can be procured to perform the necessary routine operations. There is, then, yet a great work to be done by the public schools in our rural communities

in removing the dead weight of illiteracy from our agriculture. Let us see how far they are making progress in this direction. In 1890, out of a total school population (between the ages of 5 and 18) of 18,543,201, the Bureau of Education reported that 12,722,581 pupils were enrolled in the common schools of the United States. While there are no exact statistics showing how many of these scholars were in the rural schools, it is probably fair to estimate, on the basis of

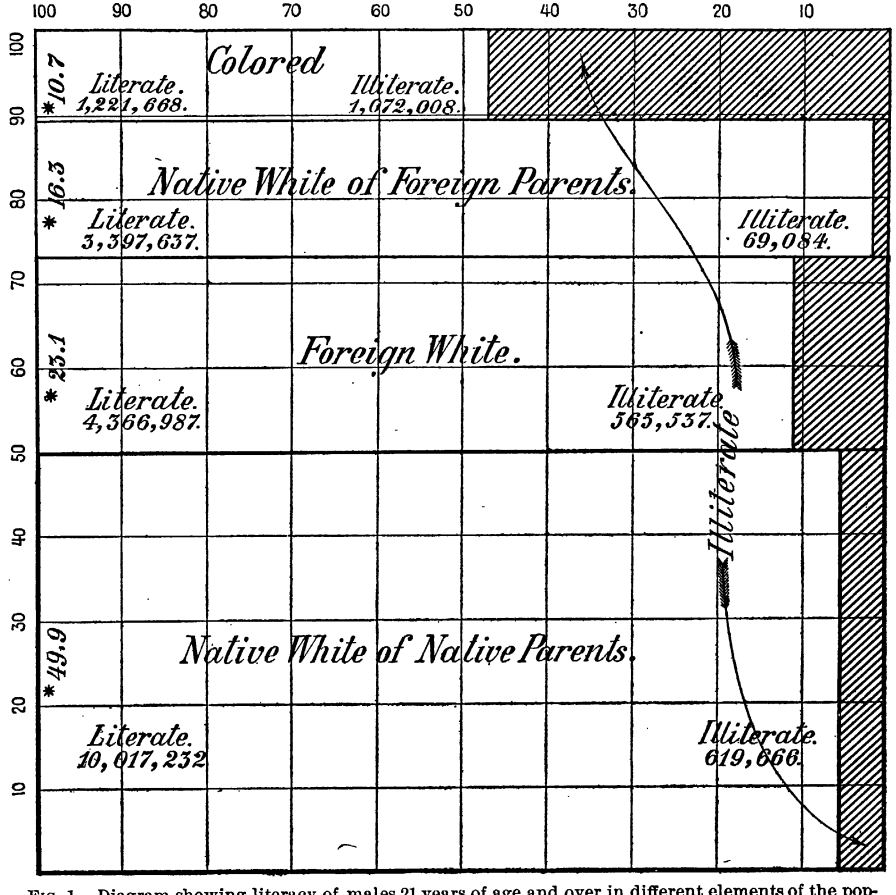

FIG. 1.—Diagram showing literacy of males 21 years of age and over in different elements of the population in the United States: * Percentage of total male population 21 years of age and over.

the farming population, that the number of pupils enrolled in these schools was not less than 6,750,000. In the same way we find that in 1900 the total school population was 22,253,050, and the number of pupils enrolled in the common schools 15,341,220, of whom 14,821,969 were in the elementary schools, and the number enrolled in the rural schools was approximately 8,000,000. The average daily attendance for the whole country was 8,153,635 in 1890, and 10,513,518 in 1900. The average length of the school term in 1890 was 134.7 days, and in

1900, 144.6 days. The average number of days of attendance by each pupil enrolled was 86.3 in 1890 and 99.1 in 1900. These statistics indicate that there has been some improvement in the attendance of pupils on the common schools during the past decade. The length of the school term in 1900 varied from 177.1 days in the North Atlantic States[1] to 99.7 days in the South Central States, the extremes being 189 days in Massachusetts and Connecticut and 70.8 days in North Carolina. The average number of days of attendance also varied from 128.3 in the North Atlantic States to 66.6 in the South Central States, the extremes being 145.7 in Massachusetts and 36.6 in North Carolina. There were 15 States in which the average number of days of attendance for each pupil did not rise above 75, or 15 school weeks of 5 days each. These figures bring out in a striking way the decided limitations still imposed on our youth as regards the acquiring of even an elementary education, and when coupled with the statistics of absolute illiteracy show conclusively that the country is yet far from the desirable goal of universal popular education.

THE PROBLEM OF PROVIDING ELEMENTARY EDUCATION FOR ALL.

The most pressing problem of the schools, and especially of the rural schools, is the providing of adequate ways and means for giving every child within our borders a good elementary education. To do this, we must find a way of getting all the children into the schools and holding them there long enough to give them satisfactory training. As the present inadequacy of our educational system presses heavily on the rural population, it is high time that our farmers took a more active part in the movement to extend and complete the system of public schools. To provide every child of school age in this country with a good common school and to keep that school in operation eight or nine months in the year will require the annual expenditure of a large amount of money, most of which must be raised by public taxation. To levy the school taxes so that the burden of this taxation will be equitably distributed and at the same time the school privileges of the children reasonably equalized, requires very wise school legislation. This legislation must of course be based on an intelligent public appreciation of the factors involved in the problem. Thus far the financial support of the public schools in this country has

[1] The geographical divisions of the Twelfth Census are as follows: North Atlantic—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania. South Atlantic—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida. North Central—Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas. South Central—Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Indian Territory, Oklahoma, Arkansas. Western—Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Washington, Oregon, California.

been left to the States and the local communities, except that Congress has given the States in which the public lands were located large grants of these lands from which to make permanent endowment funds for the schools. From time to time propositions for National aid to these schools through taxation have been brought before Congress, but constitutional and other objections have prevented favorable action by that body in this direction. Within the States there have been various plans for raising the school revenues. There is first the interest on the endowment funds created by the sale of the public lands granted to many of the States by Congress. In nearly all the States which do not have the land-grant fund, permanent school funds have been created out of their own resources. The annual revenue derived from these land-grant and other permanent funds constitutes, however, only a small fraction of the aggregate funds required for the maintenance of the public schools, and with the increase of population it is a constantly decreasing fraction. In 1889–1890, out of a total school revenue of $143,000,000, about $7,500,000, or 5.4 per cent, was derived from the income of permanent funds. In 1899–1900 this permanent income had declined to 4.2 per cent of the total revenue, being only $9,500,000 out of about $218,000,000.

METHODS OF PROVIDING MONEY FOR PUBLIC SCHOOLS.

By far the largest part of the money required for the proper maintenance of the public schools is and must continue to be raised by annual taxation. The method now generally followed is to provide part of this annual school fund by State taxation and part by county, town, school district, or other local taxation. In 1899–1900 about 69 per cent of the total amount of school revenues was raised by local taxation and 16 per cent by State taxation. But the relative amounts raised by State taxation in different States varied from nothing to 77 per cent. Various local conditions, as regards especially distribution of population and of wealth, will undoubtedly always prevent anything like uniformity in the methods of taxation for school purposes in the different States, but experience indicates that it is very desirable that a few general principles should be commonly applied in levying school taxes. Among these principles are the following: (1) The aim should be to provide every child of school age with equal opportunities for an education; (2) the whole wealth of the State should be made available for educating all the youth of the State; and, (3) the individual communities requiring schools should contribute according to their means toward the support of their own schools. It is the failure to observe one or more of these principles which has resulted in keeping the percentage of illiteracy so high, and has either imposed a burden of taxation on the rural communities greater than they could bear or

has left them without proper inducement to exert themselves to contribute their just share toward the maintenance of their own schools. A few historical examples will serve to illustrate these points.

In Massachusetts for many years it was the plan to throw the whole burden of school maintenance on the local communities, but with the increase of manufacturing and the consequent concentration of capital and population the schools in the towns and cities obtained financial resources which enabled them to far outstrip the country schools in every particular. Many of the rural communities bravely struggled to maintain their schools on a proper relative basis of efficiency, but this led to increase in the burden of school taxation, which constituted an intolerable weight on agriculture in those communities. At length the hopelessness of this effort became apparent to the educational leaders of this State, and under their guidance the State was brought in some degree to see its duty toward the financially weak school districts. A system of State aid to country schools on the basis of their own reasonable efforts to help themselves was devised and has already contributed to the improvement of the schools. But it will probably be some time before this wealthy State realizes the full measure of its obligation to equalize the school advantages of all its children and contribute as it ought to the maintenance of its rural schools.

In North Carolina, on the other hand, a very large share of the school moneys has been raised by State taxation. This was perhaps a natural course to pursue in a community where the population was scattered and the aggregate wealth comparatively small, but this plan has apparently paralyzed local effort and kept the average length of the school term at a very low level. The average amount annually contributed by each adult male in North Carolina to the support of schools through local taxation is only 6 mills, while in Massachusetts it is $16.26. In the latter case the amount is undoubtedly excessive, especially as regards the country taxpayers, but it is nevertheless true that much greater interest would be taken in the public schools and better provision made for them in many regions if their support were thrown more largely on the people for whose direct benefit the schools are established. The scheme of local taxation will be most efficient if the State aid to the school fund of the local communities is conditioned on the amounts raised by local taxation for this purpose. In Michigan, for example, districts which do not maintain a school during the period required by law forfeit their share of the State school tax and the primary school fund, and it has been found that under this incentive it seldom happens that even the weakest districts fail to keep their schools open during the prescribed term. In Massachusetts a portion of the State fund is divided among the townships on the basis of the ratio which the town's school tax bears to the whole town tax;

the larger the ratio the more help the town receives. In that State the principle is recognized that the poorer the community the more it needs the help of the State to properly maintain its schools. Thus, $275 is given annually to towns whose assessable valuation falls below $500,000; $200 to those whose valuation is between $500,000 and $1,000,000, and $100 to those whose valuation is between $1,000,000 and $2,000,000.

NEED OF ADJUSTMENT OF STATE AID AND LOCAL SELF-HELP.

The relative amounts of school taxes which the State and the local community should raise will undoubtedly vary in different States according to the variations in distribution of wealth and population as between the rural and urban communities. The main thing is to have such an adjustment of State aid and local self-help as will make all the schools of the State efficient and keep the patrons of the schools alive to their best interests. But experience shows that even where there are plenty of good schools provided at public expense there are often parents so indifferent to the welfare of their children as to be willing to let them grow up in ignorance. This evil is perhaps more prevalent in the cities, but too often the farmer is tempted to keep his children out of school because of the money value of their labor in the house or on the farm. The few dollars the child can earn by helping in the plowing, weeding, or harvesting is considered of more account than his preparation in school for the labors and responsibilities of his after life. To check this evil and stamp out illiteracy a number of States have passed compulsory education laws, requiring the attendance at private or public school of children of school age. This is not the place to discuss the merits of such laws. It is sufficient for our purpose to point out that among the important educational problems yet to be solved in this country is the securing of the more general attendance of the children at even the elementary schools already provided for their education.

UNNECESSARY MULTIPLICATION OF SCHOOL OFFICERS.

While there has undoubtedly been a generally increasing interest in public education in this country during the past quarter of a century, various causes have unfavorably affected the rural schools, so that their relative efficiency has notably decreased. Even in communities where educational activity has been relatively great some of these causes have operated to the disadvantage of the schools. There is no doubt that the average rural school of the Northeastern and Central States is as a rule an educational agency of considerably less merit than it was a generation ago. Then these schools were often numerously attended by boys and girls who in many cases continued in them until

they were full-grown men and women. They were taught by the brightest minds in these communities, often in winter by college students and in summer by women from the academies. The range of studies, while narrow, was fundamental, and in that respect the country and city schools of that time were much alike. In a word, the country schools of that day were much more nearly sufficient for the educational needs of the times than those of to-day. Then the indefinite multiplication of schools seemed to the people and the schoolmen alike to be a good thing. A large amount of generous sentiment clustered around the little schoolhouse, and communities greatly prided themselves on the number of schoolhouses they could count within the township or the county. We see now that this movement was carried too far. For one thing it led to the creation of a vast number of small and often autonomous school districts, and thus to a great multiplication of petty school officials. In Wisconsin, for example, there are nearly 20,000 school officers. This has in recent years been greatly to the disadvantage of the country schools. As a rule, the officers of the country schools have no special training or fitness for the management of schools, and these schools have thus been very largely deprived of the skilled superintendence which the city schools now so generally enjoy. The school officers in the country districts too often are ignorant of the great changes which have been going on in the schools of the towns; they do not even understand what a good rural school really is; they look more at the cheapness than the efficiency of the teacher; they are willing to intrust the school to the care of some relative or neighbor's daughter without reference to her qualifications as a teacher. In a word, they do not look outside their own little bailiwick or consider their relations to the great educational world, by whose standards the merits of their schools are to be judged.

UNWISE MULTIPLICATION OF SCHOOL DISTRICTS.

The unwise multiplication of school districts has also kept the amount of money available for school purposes in each district at so low a level that it has been increasingly difficult to procure or retain well educated and efficient teachers in the rural schools. The low rate of wages offered by many of these schools prevents the employment of teachers who have had professional training in the normal school, or even a high-school education. Many of the teachers in the rural schools have had only the limited education given by the schools in which they teach. The brightest and ablest of even these poorly trained teachers are constantly being drawn away to get more education and ultimately to find better positions in the urban schools. For this and other reasons, the country schools are constantly changing teachers. There is, therefore, too much truth in the statement made by a school officer after an investigation of the schools of his State

that "country teachers are in most cases young, immature, half-trained, ineffective, and lacking in professional ideals and ambitions. They are of two general classes—the callow apprentice class and the old stagers who have been too inefficient to get employment elsewhere." Meanwhile, in many of the country schools the number of pupils has been declining rapidly. Some districts have been depleted by removal of the population to other farming regions or to cities; in some the average family is not as large as formerly, and thus the school population has diminished; in others the boys and girls are taken at a comparatively early age to the better schools in nearby towns or cities. Thus, it has come about that many country schools have too few pupils to stimulate the teacher to do his best work or to give the pupils that very important element of his education which comes from mental contact with his fellows. Any teacher who has taught in a country school will testify that one of the most discouraging features of his work comes from the fact that the pupils do not as a rule feel the inspiration of a highly competitive life such as is found in the larger communities. This disadvantage is greatly intensified when there are not enough pupils in a school to make classes in which mind may wrestle with mind in the daily recitations or even on the playground. In Connecticut, for example, one-tenth of the schools have an average attendance of less than 8; in Wisconsin nearly 1,000 schools have an average attendance of less than 10; in Iowa over 2,500 districts report an average attendance of less than 10, and over 9,000 of less than 20, out of a total of about 13,000 districts in the State; in Indiana over 4,000 schools, or one-half the total number, have an attendance of less than 20. The largeness and importance of this problem may be seen from such facts as these from two of the most important agricultural States. In Wisconsin over 200,000 pupils, or half the whole number in the State, are in ungraded schools, and 95 per cent of these pupils do not carry their education beyond these schools. In Iowa, out of a total enrollment of about 550,000 pupils, over 375,000 are in the ungraded schools, and in this State 3,508 of the teachers licensed in 1898 had had no experience and 3,825 had taught less than one year. The general school officers of the several States are now thoroughly alive to the evils of this situation, and their reports abound in serious statements that the problems of the country schools are by far the most pressing educational problems of the present time. Moreover, they are making earnest efforts to improve the condition of these schools, and their writings show that they are not blind to the natural advantages which the country schools possess. For in this discussion we must not lose sight of the fact that in some respects the country boys and girls will always have the advantage of their city fellows. The free and open life of the country imparts a vigor of mind and body of a much higher average than is found in the cities; the occupations

of the farm necessitate a varied exercise of both mind and body which is much broader than that enjoyed by the average city youth, whose range is confined to the school, the street, and the factory or the store; the country environment furnishes a much wider range of materials for interesting study, and the great pity is that these are now almost entirely neglected by the schools. Given a bright, energetic, and well-trained teacher and 25 to 40 healthy and active country children between the ages of 5 and 18, and we may easily have a school whose educational results will be of great merit, though the strict grading and the elaborate equipment of the city school are lacking. There are such schools, and they are doing a grand work; but these serve at present only to brighten in a slight degree the dark picture which portrays the unsatisfactory condition of the average rural school. The fact remains that if we are to improve our agriculture and compete on the best terms with our rivals in the world's market, if we are to make the conditions of country life attractive enough to keep the bright boys and girls on the farms, if we are to equalize the advantages of country and town so as to maintain an intelligent, prosperous, progressive, and contented yeomanry, we must give immediate and effective attention to the needs of the rural schools. And this is just as true of the most thriving agricultural communities as it is of those regions where agriculture is overshadowed by other industries or where public education has never yet flourished. The farmers have this matter in their own hands; they can have a better state of things if they will; and now that the educational leaders are moving actively for the improvement of the rural schools, nothing but the indifference or the opposition of the people most concerned can defeat their laudable efforts.

CONSOLIDATION OF SCHOOLS AND FREE TRANSPORTATION FOR PUPILS.

There is general agreement among the school authorities that the first thing to be done is to reduce the number of small school districts, to make the township the smallest unit of school management, and as far as possible to consolidate the country schools wherever the average attendance falls below 20. This carries with it the proposition to provide free transportation for pupils whenever they live beyond a reasonable walking distance from the schools. The movement for the consolidation of small schools has already been in progress long enough to have demonstrated that when properly managed it will produce excellent results. So rapidly has legislation opened the way for this change that it will probably be a surprise to many readers to learn that in eighteen States transportation of pupils at public expense is already permitted by existing laws. This is at present the most important movement affecting the rural schools, and it will be well, therefore, to study it more closely. The arguments for and against

the consolidation of schools and free transportation of pupils have been very clearly stated by Mr. A. W. Edson, an agent of the Massachusetts State Board of Education,[1] and we can perhaps not do better than to give the substance of his arguments here.

The favorable arguments are:

(1) It permits a better grading of the schools and classification of pupils. The pupils can thus be placed where they can work to the best advantage; the various subjects of study can be more wisely selected and correlated and more time can be given to recitation.

(2) It affords an opportunity for thorough work in special branches, such as drawing, music, and nature study. It also allows an enrichment of the course in other lines, giving a chance, for example, for the introduction of some agricultural instruction.

(3) It leads the way to more weeks of schooling and a higher grade of instruction.

(4) It insures the employment and retention of better teachers.

(5) It makes the work of school supervisors far more effective.

(6) It adds the stimulating influences of large classes, with the resulting enthusiasm and generous rivalry. The discipline and training thus obtained are invaluable.

(7) It affords the broader companionship and culture that come from association.

(8) It results in a better attendance of pupils.

(9) It leads to better school buildings, better equipment, a larger supply of books, charts, maps, and apparatus. The large expenditure implied in these better appointments is wise economy, for the cost per pupil is really much less than the cost in small and widely separated schools.

(10) It quickens public interest in the schools. Pride in the quality of the work done secures a greater sympathy and better fellowship throughout the town.

To the above arguments advanced by Mr. Edson, may be added one which is of importance as concerns regions where the population is scattered:

(11) It affords young children, and especially girls, desirable protection on their way to and from school.

The objections urged are:

(1) It may result in decreased valuation of farms in districts where schools are closed. This has been negatived by the experience of the communities which have tried the new plan.

(2) It necessitates the longer absence of young children from home and the providing for them of a cold lunch rather than a warm dinner. This is a real objection, and should be reduced to a minimum by having a teacher remain with the children during the noon hour.

[1] Annual Report Massachusetts State Board of Education, 1893–1894.

(3) It may bring danger to health and morals. The children may be obliged to travel too far in cold and stormy weather, or to walk a portion of the way to meet the team and then to ride to school in damp clothing and with wet feet; the driver may be an improper person and the conveyance unsuitable; the children may be brought into too close association with unworthy comrades. These are objections which may be largely done away with by the school authorities, whose duty it is to provide proper drivers, suitable conveyances, and reasonable routes. They are really no greater than those which arise from the children walking all the way to school in country districts, often along lonely roads.

(4) It may bring additional expense to the parents to provide proper clothing when the children go to a central school. This has been found to have very little weight.

(5) It removes an ancient landmark and is a decided innovation. This is, alas, an objection of great weight with a considerable class of the patrons of rural schools, who choose to live, move, and die as did their ancestors. Time and patience are required to overcome this objection, but the more progressive people of the rural communities can hardly be expected to pay much heed to it.

The States in which the consolidation of schools and the transportation of pupils at public expense are now being tried to a greater or less extent are: Connecticut, Florida, Indiana, Iowa, Kansas, Maine, Massachusetts, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, South Dakota, Vermont, and Wisconsin. This plan was inaugurated in Massachusetts in 1869, and has been gradually and more rapidly extended with the passing years. In 1890–1891 the amount expended for transportation in that State was $30,649, and in 1899–1900 it was $141,754. In Vermont the amount thus expended has increased from $11,122 in 1893–1894 to $26,492 in 1899–1900. In Ohio transportation was first tried in 1892 under a special law framed so as to apply to the township of Kingsville only; the next legislature extended it to three counties, and in 1898 a law covering the whole State was passed. Twenty-three townships in Ohio now have their schools completely centralized, and there are hundreds of towns where there is partial centralization. In Indiana transportation of pupils is practiced more or less in 44 counties.

In summing up the financial results of the centralization of the rural schools thus far attempted, the United States Bureau of Education states:

> It is the general experience that a saving of funds is effected through consolidation of schools. Of the towns in Massachusetts that have tried the plan 68 per cent report a less cost after consolidation, and only 8 per cent an increased cost. Of 124

New Hampshire towns, 118 report less cost with conveyance as compared with maintaining local schools. Connecticut transported 849 pupils in 1898–1899 at a cost of $12,000, or $14.14 per pupil; Vermont 2,062 for one year at a cost of $26,492, or $12.85 per pupil. These are averages. In individual cases the cost varies greatly, according to the particular circumstances in each case. The testimony is very general that consolidation results in improved schools and is well-nigh unanimous that attendance is more regular. In cases where centralizing the schools would be bene-

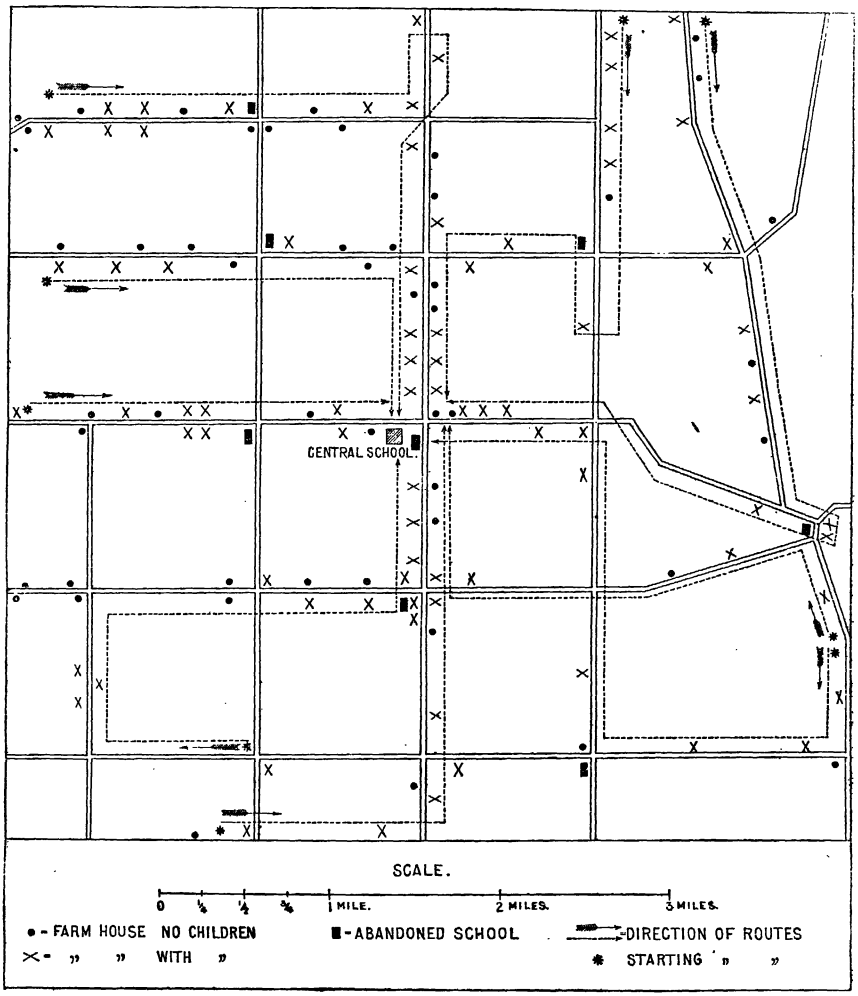

FIG. 2.—Diagram of Gustavus Township, Trumbull County, Ohio, showing transportation routes.

ficial, it would seem that the manifest and fundamental advantages to be gained must in the end prevail over the inertia of conservatism, unreasoning prejudice, or petty self-interest, and such appears to be the actual trend of events. The just apprehensions of parents may be allayed by procuring fit and trustworthy drivers and making suitable regulations.

The centralization of the schools is brought about either by bringing the pupils from outlying schools to a village schoolhouse already

existing or by building a new schoolhouse to accommodate the pupils brought from several small schools. The routes for the carriages are arranged so as not to require any pupil to ride a very long distance. How this may be accomplished in a township is illustrated by the diagram (see fig. 2). The conveyances are usually hired on contract, and are commonly covered wagons (see fig. 3). In a few cases provision has been made for heating the wagons in very cold weather. Besides conveying the children to school, these wagons are sometimes utilized for carrying messages, library books, and packages, or even the mail, and the drivers do errands at the villages for their rural patrons during school hours. In Indiana it is thought by the State superintendent of education that one school in a township 6 miles square would often be sufficient. In that State the law requires the central school to be near

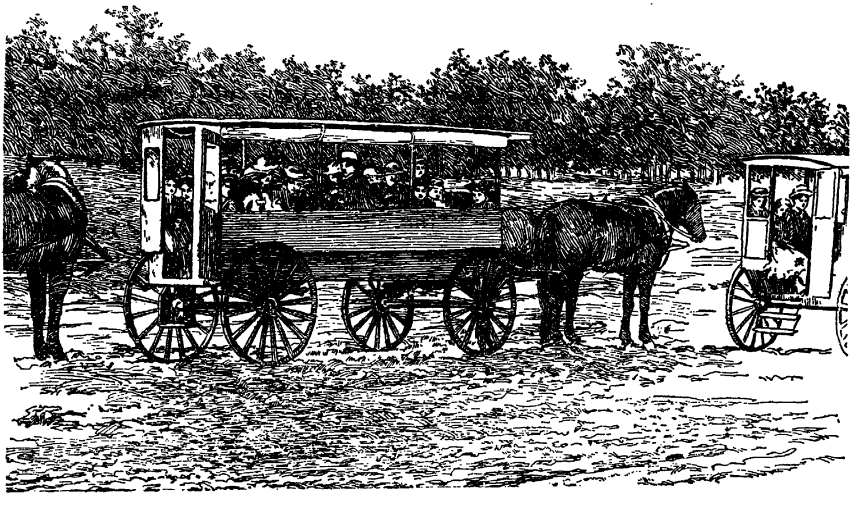

FIG. 3.—Wagons used for transporting school children.

the geographical center of the township. The central schools contain from 6 to 8 rooms, and thus permit of the establishment of a number of grades, after the manner of city schools. In both Indiana and Ohio high schools are being established as the result of centralization of the common schools, and some of these high schools are away from the villages. Township libraries are being established; also lecture courses for adults in the evening or Saturday afternoon.

While it can not be claimed that centralization offers a panacea for the ills of the rural schools, and there are doubtless many regions where this plan can not be economically or wisely adopted, the movement in this direction is a very encouraging element in our present educational situation. There is good reason to believe that it can be widely applied and that it will be an important factor in bringing about that reasonable equalization of the advantages of city and country life for which

there is now much better reason to hope than ever before. Along with such things as rural free delivery of mails, cheap telephones, trolley cars, and good roads, the free transportation of children to good public schools is likely in the near future to play an important part in betterment of life on the farm. It adds another agency for breaking down the barriers of isolation and stagnation which have so often kept the farmer out of harmony with the world in which he lives, and which have caused so many of the farmers' children to leave the country for the greater attractions and the greater uncertainties of the cities.

ADVANTAGES OF BETTER ORGANIZATION OF RURAL SCHOOLS.

With the better organization of the rural schools will come very much wider opportunities for the enrichment of the courses of study by the introduction of those subjects which are most directly related to the improvement of agriculture and to the inculcation of a love of country life in the minds of the youth on our farms. All around country schools lies a wealth of material for the most attractive and valuable studies which, thus far, has been almost entirely neglected for the lack of knowledge and the absence of the skilled teacher. Knowledge has now been supplied by the researches of those scientific men who have gone beyond the principles and abstractions of science, and have discovered the real relation of the facts and phenomena of nature to the daily concerns of the industrial pursuits of men. In recent years great strides have been made in the studies on those things in nature with which the farmer has to deal. The secrets of air, soil, plant, and animal are now, in large measure, the common property of mankind. Science is no longer the mere classifying and naming of objects and phenomena. It is more and more the explanation of the activities of the natural world and of the advantage which man may take of these activities. The nature of the soil as related to the crop which will grow in it, the life of the plant as related to the amount of grain, or forage, or fruit it will bear, the body of the animal as related to the food which it requires for maintenance or growth, the life histories of injurious insects as related to the means for their repression—such things as these science has now to offer to the student who makes his home on the farm. But there is still needed in far greater number the skilled teacher to open the eyes of the farm boys and girls to the natural objects amidst which they live, and to start them in the right path of investigation of these objects with relation to their daily work on the farm. A beginning has, however, been made in training the teachers for this work, and with the growth of movements for the improvement of the rural schools more openings will come for such teachers. The enthusiastic and successful labors of such men as Professors Bailey and Roberts, of Cornell University, in the State of New York, in formulating plans for nature study in the rural schools and

in instructing teachers how to make such instruction effective, have borne much good fruit. A number of other States have already taken up this movement, and special efforts are being made to secure the interest of teachers and parents.

Nature study is not to be confounded with the systematic teaching of agriculture, for it is, in fact, a very different thing. It deals, however, with many elementary facts and principles on which the study of agriculture should be based, and is, therefore, in large measure a preparation for this study in later years. The subjects of nature study in the rural school may most appropriately be largely drawn from those things with which agriculture directly deals. The common plants and trees of the farm, the domestic animals, the beneficial and injurious insects in any agricultural region, offer abundant material for nature studies. And the intelligent teacher may easily take advantage of the fact that the pupil lives in the midst of these things to so open his mind and heart to the beauties and delights of the world about him that country life will have such an added charm that in after years he will not be so ready to desert it. This nature-study movement has been so recently inaugurated, and has, thus far, affected only such a limited number of the rural schools, that it is still necessary to repeatedly urge its importance, and, perhaps, more particularly its feasibility, wherever there is a well-organized school and a competent teacher.

The greatest obstacle to the spread of the movement to introduce nature study into the rural school, aside from the lack of competent teachers, is found in the conservatism of the patrons of these schools. Reading and writing and arithmetic they know, but what, forsooth, is this new-fangled nature study? The subject is often so presented to their minds that it seems to them as if the new study must necessarily crowd out some of the old ones, or at least weaken the already too imperfect hold which the average pupil has on such fundamental things as spelling, writing, and arithmetic. But this need not be so. Instruction about plants and animals and insects may easily and naturally be connected with exercises in composition and in numbers, which will bring into practical use from day to day what the child is learning in his lessons about the English language, arithmetic, or geography. Properly taught, nature study will not crowd out any essential branch of learning from the common schools, but, on the other hand, it will stimulate interest in them all as the pupil discovers that they may be directly related to his daily life and the world about him. Once the child's mind is awakened to the innumerable wonders of nature, and his interest excited in explanations of the phenomena with which his farm life makes him familiar, it will be far easier than ever before to stimulate him to continuous endeavor to widen his knowledge through reading, as

well as through observation. He will have more thoughts to put on paper, and he will often wish to draw objects he has seen. His view of the business of the farm will also be radically changed. The subject of milk and its products, for example, may be so presented to a class of pupils of 12 years of age that they will have a fairly intelligent idea of the composition of dairy products and of the changes that take place in the making of butter and cheese. Thereafter their view of the business of dairying will be very different from that of children who have never learned these things. The country boy oftentimes has a wonderful familiarity with nature. The things he has learned about animals, and birds, and trees; the lore of the fields, and woods, and streams—all this may be of great practical use to him. Connect this with what other students of nature have found out, and how easily this boy's knowledge of the world about him may be broadened and deepened. School will then become to him a place where he may learn things which will add a greater pleasure to his hunting and fishing, and even a new interest to the planting of seed or the milking of cows.

When people think about the teaching of agriculture in the common schools they often make the mistake of supposing that what is meant is instruction in farm operations. But obviously this would be impracticable in the ordinary public school. Plowing and reaping and milking must ordinarily be learned on the farm and not in school. But the school can help the pupil to do all these things more intelligently by teaching him why plowing is necessary and at what stage of a plant's life it is best to reap and how the dairy cow has been developed so as to yield such an abundance of milk. School is the place where we should learn to connect the practical and other knowlege we already have with what other men know who have lived in the past or in other places or have studied certain subjects very thoroughly. The child knows the English language to a considerable extent when he goes to school. By learning to read he broadens this knowledge and gains the power of learning what men in all the ages and in all the world have been thinking about and have discovered. Some of the things he may read will have a direct relation to his daily life, and the pity is that practical men are not better taught how to gather useful knowledge by reading. In a similar way the child knows something of the natural world when he goes to school. What he needs to find there is a teacher who can connect the child's limited knowledge of nature with what science has unfolded of nature's mysteries and can show how the discoveries of science may be applied to improve the life and practice of the farm.

Fortunately, in our day science is no longer a thing wholly apart from the affairs of common life. If we have grown up with the idea that science and practice are wholly and forever divorced, let us rid ourselves of this thought, for it is false. On the contrary, they are now joined in indissoluble wedlock, and their union is especially productive of good to agriculture in our times. If we will but study the needs of

the common schools with unprejudiced minds we will see that if they are to be brought into harmony with modern progress in agriculture, as well as in other industries, they must be developed so as to bring them into direct touch with the farm. The nature-study movement promises to do this, and for this reason farmers ought to take a great interest in it. It is related that a certain farmer discovered his son catching beetles, and asked what he was doing it for. The boy replied that his teacher wanted them to illustrate talks to the pupils on habits of insects, their ravages, methods of repression, etc. The farmer forbade his son catching any more "bugs," but could not help noticing that the little fellow continued his interest in them. He finally exacted a promise from the teacher not to take his son's time from books "to fool around with bugs and worms and millers." Not long after the son happened to let fall a remark in his father's hearing about some noxious insect, which showed him to be in possession of information worth some dollars to the farmer. The father's interest was thus aroused and the ban against nature study was removed. He was frequently seen out with his son collecting, and later on presented the school with a valuable collection of insects properly mounted. He had come to see that nature study had a direct relation to the improvement of agriculture.

True, nature study in the common schools is only in its beginning, and much experience will have to be gained before we learn its just limitations and develop its proper service; but this can only be done through its actual workings in the schools. Therefore, we say, open the common schools to instruction in nature, and relate that instruction directly to the farm. Insist that normal schools and teachers' institutes shall prepare teachers for this line of work.

IMPROVEMENT IN MATERIAL ENVIRONMENT OF SCHOOLS.

Greater public interest in the rural schools, their consolidation where practicable, and the enrichment of courses of study will bring about an improvement in the material environment of these schools. Substantial, well-arranged, well-heated, and well-ventilated schoolhouses will be the rule rather than, as now, the exception. (See fig. 4.) The grounds about the schoolhouse will be laid out so as to provide suitable playgrounds and shady nooks for out-of-door study and instruction. To stimulate interest in the planting of trees about country schoolhouses, the Department of Agriculture has recently issued a Farmers' Bulletin on this subject. Where circumstances will permit, school gardens will be maintained. These need not be large nor elaborate, but may easily be so managed as to furnish much material for instruction and an opportunity for the children to learn by doing things themselves. Such gardens are now successfully maintained about country schools in some places in this country and more

commonly in certain parts of Europe. (See Pl. I.) There will also be collections of seeds, dried plants, soils, minerals, insects, and other natural objects, not as curiosities, but as direct aids to instruction. Already much has been accomplished in some States in providing the country schools with useful libraries. In Wisconsin and California all the school districts have libraries, and in Connecticut, Minnesota, New York, Indiana, and Illinois much progress has been made in this direction. The public libraries are being most closely connected with

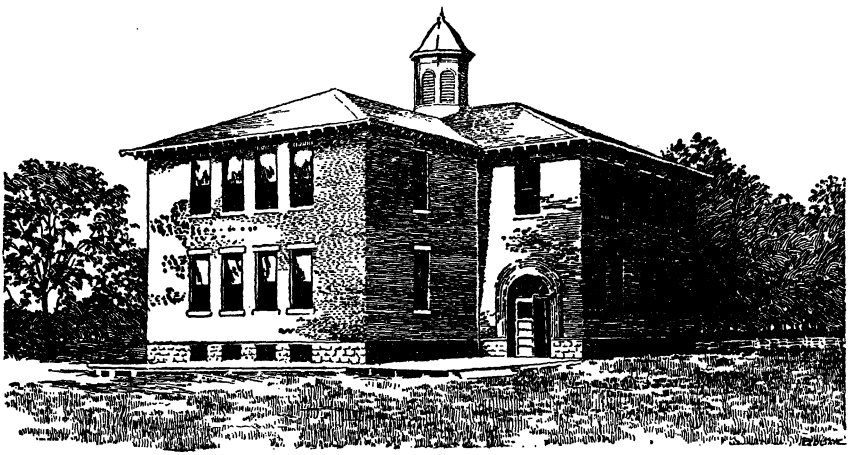

FIG. 4.—Central public school, Trumbull County, Ohio.

the public schools. In Massachusetts, for example, nearly every township has a public library to which the school children and their teachers have access.

UNION OF PARENTS AND TEACHERS FOR IMPROVEMENT OF SCHOOLS.

It will thus be seen that various movements are already on foot for the improvement of the country schools. The leaders in the educational field are more ready than ever before to try experiments which seem to promise useful results in the improvement of these schools. What is especially needed at this time is the hearty cooperation of the intelligent men and women on the farms, who send their children to these schools. And for this reason considerable interest is now being taken in a movement, starting in the State of Michigan, which seems to promise much by way of showing how parents and teachers may cooperate for the improvement of the schools. The account of this movement is condensed from an article by Mr. K. L. Butterfield in the Review of Reviews for April, 1901. The movement originated in Hesperia, a small country village in Oceana County, Mich., 12 or 15 miles from any railroad. In 1885 the teachers of this region, finding it difficult to attend the teachers' institutes, which were commonly held in other parts of the county, determined to have an association of their

FIG. 1.—PREPARING THE GROUND FOR SCHOOL GARDEN AT HAMPTON INSTITUTE, VIRGINIA.

FIG. 2.—CULTIVATING THE CROP IN SCHOOL GARDEN AT HAMPTON INSTITUTE, VIRGINIA.

own, and "it occurred to someone that it would add strength to their organization if the farmers were asked to meet with them." Mr. E. L. Brooks, who was one of the early leaders in this venture, writes about it thus:

The programmes were so arranged that the participants in discussions and in the reading of papers were about equally divided between teachers and patrons. An active interest was awakened from the start. For one thing, it furnished a needed social gathering during the winter for the farmers. The meetings were held on Saturdays and the schoolhouse favored was usually well filled. The meetings were not held at any one schoolhouse, but were made to circulate among the different schools. These gatherings were so successful that similar societies were organized in other portions of the country.

In 1892 Mr. D. E. McClure, since for four years deputy superintendent of public instruction of Michigan, was elected commissioner of schools in Oceana County. He undertook at once to make practical use of this cooperation of patrons and teachers to introduce needed reforms in the schools. "His first effort was to prepare a list of books suitable for pupils in all grades of the public schools. He also prepared a rural lecture course, as well as a plan for securing libraries for the schools. All these propositions were adopted by a union meeting of teachers and farmers." He then formed the Oceana and Newaygo Counties Joint Grangers' and Teachers' Association, and the work has since been extended to several other counties. The first association held an annual meeting continuing over several days, but in other cases a number of meetings are held during the year. Mr. McClure thus states the purpose and some of the results of the movement:

What was my ideal in organizing such associations?

(1) To unite the farmers who pay the taxes and support the schools, the home makers, the teachers, the pupils, into a cooperative work for better rural school education.

(2) To give wholesome entertainment in the rural districts, which from necessity are more or less isolated.

(3) To create a taste for good American literature in home and school and higher ideals of citizenship.

(4) Summed up in all, to make the rural schools character builders; to rid the districts of surroundings which destroy character, such as unkept school yards, foul, nasty outhouses, poor, unfit teachers. These reforms, you understand, come only through a healthy educational sentiment which is aroused by a sympathetic cooperation of farm, home, and school.

What results have I been able to discover growing out of this work? Ideals grow so slowly that one can not measure much progress in six or seven years. We are slaves to conditions, no matter how hard, and we suffer them to exist rather than rouse ourselves and shake them off. The immediate results are better schools, yards, outbuildings, schoolrooms, teachers, literature for rural people to read.

Many a father and mother whose lives have been broken upon the wheel of labor have heard some of America's orators, have read some of the world's best books, because of this movement, and their lives have been made happier, more influential, more hopeful.

More than 8,000 people have been inspired, made better, at the Hesperia meetings.

The Kent County association, organized in 1897, is itinerant and holds at least five meetings each year during the fall and winter. The membership includes farmers, teachers, school officers, and even pupils. At each meeting there are usually three sessions—Friday evening and Saturday forenoon and afternoon. "The average attendance has been nearly 500, about one-tenth being teachers. Many teachers, as well as farmers, go considerable distances to attend." The commissioner of schools in Kent County has thus summarized the results of the work of this association:

> To teachers the series of meetings is a series of mid-year institutes. Every argument in favor of institutes applies with all its force to these associations. To farmers they afford a near-by lecture course, accessible to all members of the family, and of as high grade as those maintained in the larger villages. To the schools the value is in the general sentiment and interest awakened. The final vote on any proposed school improvement is taken at the annual school meeting, and the prevailing sentiment in the neighborhood has everything to do with this vote. And not only this, but the general interest of patrons may help and cheer both teacher and pupils throughout the year. On the other hand, indifference and neglect may freeze the life out of the most promising school. There is no estimating the value to the schools in this respect.

If a plan like this for combining the efforts of farmers and teachers for the improvement of the rural schools and the intellectual life of rural communities can be put into effective operation throughout the country it will undoubtedly prove a mighty force for the betterment of country life.

SUMMARY.

We have thus briefly stated what seem to us to be some of the most important and pressing problems of our rural common schools. They may be briefly summarized as follows:

(1) To provide schools for all the children and to bring all the children into them.

(2) To make the annual school term throughout the United States long enough to give the children thorough instruction in the fundamentals of common knowledge during the period of their school life.

(3) To directly relate the instruction of the school to the practical business of the farm through the employment of teachers in sympathy with farm life and the enrichment of the school course by the introduction of agricultural subjects.

(4) The improvement of the material equipment and environment of the school by the consolidation of small schools, the improvement of school buildings and grounds, and the establishment of school libraries and collections of materials for illustration.

(5) The making of the schools more thoroughly the centers for the intellectual life of the community by the cooperation of the farmer and his family with the teacher through associations like those now existing in Michigan, or through other agencies.